



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Girish Kotwal et al. Art Unit : 1646
Serial No. : 09/889,624 Examiner : Joseph F. Murphy
Filed : November 7, 2001
Title : APPLICATION OF A VIRAL COMPLEMENT INHIBITORY PROTEIN IN THE
TREATMENT AND DIAGNOSIS OF ALZHEIMER'S DISEASE

MAIL STOP AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Copies of the references listed on the attached form PTO-1449 are enclosed.

This statement is being filed after a first Office Action on the merits, but before receipt of a Final Office Action or a Notice of Allowance. A check for \$180 in payment of the late submission fee of CFR §1.17(p) is enclosed. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date:

January 6, 2005

M. Angela Parsons
M. Angela Parsons, Ph.D.
Reg. No. 44,282

Fish & Richardson P.C., P.A.
60 South Sixth Street, Suite 3300
Minneapolis, MN 55402
Telephone: (612) 335-5070
Facsimile: (612) 288-9696
60264017.doc

01/12/2005 BABRAHA1 00000013 09889624

01 FC:1806

180.00 OP

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

January 6, 2005

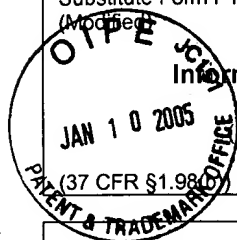
Date of Deposit

Signature

Jill Huso

Typed or Printed Name of Person Signing Certificate

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 17541-033US1	Application No. 09/889,624
Information Disclosure Statement by Applicant (Use several sheets if necessary)		Applicant Girish Kotwal et al.	
		Filing Date November 7, 2001	Group Art Unit 1646

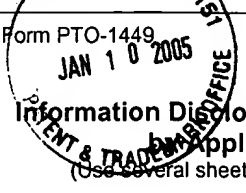
**U.S. Patent Documents**

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	5,187,268	02/16/93	Kotwal et al.			

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	AB	Adams, "Alzheimer's Disease Research: A Game of Connect the Dots," <u>Gerontology</u> , 1997, 43:8-19
	AC	Beal et al., "Alzheimer's Disease and Other Dementias," <u>Harrison's Principles of Internal Medicine</u> , 13 th Edition, Vol. 2, Chapter 370, pp. 2269-2275
	AD	Beyreuther and Masters, "Serpents on the road to dementia and death," <u>Nature Med.</u> , 1997, 3(7):723-725
	AE	Breitner et al., "Delayed Onset of Alzheimer's Disease With Nonsteroidal Anti-Inflammatory and Histamine H2 Blocking Drugs," <u>Neurobiol. Aging</u> , 1995, 16(4):523-530
	AF	Buxbaum and Greengard, "Regulation of APP Processing by Intra- and Intercellular Signals," <u>Ann. N.Y. Acad. Sci.</u> , 1996, 777:327-331
	AG	Cheng, "A heparin-binding protein in porcine seminal plasma stimulates neurite outgrowth on neuroblastoma cells in culture," <u>Neurosci. Lett.</u> , 1992, 142:77-80
	AH	Citron et al., "Mutant presenilins of Alzheimer's disease increase production of 42-residue amyloid β -protein in both transfected cells and transgenic mice," <u>Nature Med.</u> , 1997, 3(1):67-72
	AI	Corder et al., "Gene Dose of Apolipoprotein E Type 4 Allele and the Risk of Alzheimer's Disease in Late Onset Families," <u>Science</u> , 1993, 261:921-923
	AJ	Cotman et al., " β -Amyloid Converts an Acute Phase Injury Response to Chronic Injury Responses," <u>Neurobiol. Aging</u> , 1996, 17(5):723-731
	AK	Cribbs et al., "Complement activation by cross-linked truncated and chimeric full-length β -amyloid," <u>NeuroReport</u> , 1997, 8:3457-3462
	AL	Dragunow and Preston, "The role of inducible transcription factors in apoptotic nerve cell death," <u>Brain Res. Rev.</u> , 1995, 21:1-28
	AM	Elkabes et al., "Brain Microglia/Macrophages Express Neurotrophins that Selectively Regulate Microglial Proliferation and Function," <u>J. Neurosci.</u> , 1996, 16:2508-2521
	AN	Farias et al., "Immunological characterization of epitopes on tau of Alzheimer's type and chemically modified tau," <u>Mol. Cell. Biochem.</u> , 1997, 168:59-66
	AO	Goebel et al., "The Complete DNA Sequence of Vaccinia Virus," <u>Virology</u> , 1990, 179(1):247-266
	AP	Jiang et al., " β -Amyloid Activates Complement by Binding to a Specific Region of the Collagen-Like Domain of the C1q A Chain," <u>J. Immunol.</u> , 1994, 152(10):5050-5059
	AQ	Kotwal and Moss, "Vaccinia virus encodes a secretory polypeptide structurally related to complement control proteins," <u>Nature</u> , 1988, 335:176-178
	AR	Kotwal et al., "The inflammation modulatory protein (IMP) of cowpox virus drastically diminishes the tissue damage by down-regulating cellular infiltration resulting from complement activation," <u>Mol. Cell. Biochem.</u> , 1998, 185:39-46
	AS	Kotwal et al., "Inhibition of the Complement Cascade by the Major Secretory Protein of Vaccinia Virus," <u>Science</u> , 1990, 250:827-830

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Form PTO-1449 (Modified)  Information Disclosure Statement (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 17541-033US1	Application No. 09/889,624
	Applicant Girish Kotwal et al.		
	Filing Date November 7, 2001	Group Art Unit 1646	

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	AT	Kotwal et al., "Intracellular Detection of the C-Terminal Tail Containing APP Polypeptides in AD Brain Tissue," <u>Soc. Neurosci. Abstr.</u> , 1996, 22:502, Abstract No. 204.2
	AU	Kotwal et al., "Mapping and Insertional mutagenesis of a Vaccinia Virus Gene Encoding a 13,800-Da Secreted Protein," <u>Virology</u> , 1989, 171(2):579-587
	AV	Kotwal et al., "Vaccinia virus complement control protein is a virokinase with lysozyme-like heparin-binding activity: possible implications in prolonged evasion of host immune response," <u>10th International Congress of Immunology</u> , New Delhi, India, November 1-6 1998, 1:315-320
	AW	Kotwal, "The Great Escape. Immune Evasion by Pathogens," <u>The Immunologist</u> , 1996, 4:157-164
	AX	Mackenzie and Munoz, "Nonsteroidal anti-inflammatory drug use and Alzheimer-type pathology in aging," <u>Neurology</u> , 1998, 50(4):986-990
	AY	Mahley et al., "Apolipoprotein E. Structure, Function, and Possible Roles in Alzheimer's Disease," <u>Ann. N. Y. Acad. Sci.</u> , 1996, 777:139-145
	AZ	Mann et al., "Microglial cells and amyloid β protein ($A\beta$) deposition: association with $A\beta_{40}$ -containing plaques," <u>Acta Neuropathol.</u> , 1995, 90(5):472-477
	AAA	Massung et al., "Analysis of the Complete Genome of Smallpox Variola Major Virus Strain Bangladesh-1975," <u>Virology</u> , 1994, 201(2):215-240
	ABB	Massung et al., "Terminal Region Sequence Variations in Variola Virus DNA," <u>Virology</u> , 1996, 221:291-300
	ACC	McGeer et al., "Arthritis and anti-inflammatory agents as possible protective factors for Alzheimer's disease: A review of 17 epidemiologic studies," <u>Neurology</u> , 1996, 47:425-432
	ADD	McKenzie et al., "Regulation of Complement Activity by Vaccinia Virus Complement-Control Protein," <u>J. Infect. Dis.</u> , 1992, 166:1245-1250
	AEE	Messing et al., "A system for shotgun DNA sequencing," <u>Nucl. Acids Res.</u> , 1981, 9:309-321
	AFF	Miller et al., "Severe and Prolonged Inflammatory Response to Localized Cowpox Virus Infection in Footpads of C5-Deficient Mice: Investigation of the Role of Host Complement in Poxvirus Pathogenesis," <u>Cell. Immunol.</u> , 1995, 162:326-332
	AGG	Miller et al., "The Cowpox Virus-Encoded Homolog of the Vaccinia Virus Complement Control Protein Is an Inflammation Modulatory Protein," <u>Virology</u> , 1997, 229(1):126-133
	AHH	Mulligan and Berg, "Expression of a Bacterial Gene in Mammalian Cells," <u>Science</u> , 1980, 209:1422-1427
	AII	Palmert et al., "Amyloid Protein Precursor Messenger RNAs: Differential Expression in Alzheimer's Disease," <u>Science</u> , 1988, 241:1080-1084
	AJJ	Peskind, "Neurobiology of Alzheimer's Disease," <u>J. Clin. Psychiatry</u> , 1996, 57:(Suppl. 14):5-8
	AKK	Rebeck et al., "Multiple, Diverse Senile Plaque - associated Proteins Are Ligands of an Apolipoprotein E Receptor, the α_2 -Macroglobulin Receptor/Low-Density-Lipoprotein Receptor-related Protein," <u>Ann. Neurol.</u> , 1995, 37(2):211-217
	ALL	Rohan de Silva and Patel, "Presenilins and early-onset familial Alzheimer's disease," <u>NeuroReport</u> , 1997, 8(8):i-xii
	AMM	Roses, "Alzheimer's Disease: The Genetics of Risk," <u>Hosp. Pract.</u> , 1997, 32(7):51-69

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Form PTO-1449 (Modified) Information Disclosure Statement (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 17541-033US1	Application No. 09/889,624
	Applicant Girish Kotwal et al.		
	Filing Date November 7, 2001	Group Art Unit 1646	

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	ANN	Shchelkunov et al., "The Genomic Sequence Analysis of the Left and Right Species-Specific Terminal Region of a Cowpox Virus Strain Reveals Unique Sequences and a Cluster of Intact ORFs for Immunomodulatory and Host Range Proteins," <u>Virology</u> , 1998, 243:432-460
	AOO	Schellenberg et al., "APP ₇₁₇ , APP ₆₉₃ , and PRIP Gene Mutations Are Rare in Alzheimer Disease," <u>Am. J. Hum. Genet.</u> , 1991, 49:511-517
	APP	Schmidt et al., "Chemical and Immunological Heterogeneity of Fibrillar Amyloid in Plaques of Alzheimer's Disease and Down's Syndrome Brains Revealed by Confocal Microscopy," <u>Am. J. Pathol.</u> , 1995, 147(2):503-515
	AQQ	Selkoe, "The Role of APP Processing and Trafficking Pathways in the Formation of Amyloid β -Protein ^a ," <u>Ann. N.Y. Acad. Sci.</u> , 1996, 777:57-64
	ARR	Selkoe, "Amyloid β -Protein and the Genetics of Alzheimer's Disease," <u>J. Biol. Chem.</u> , 1996, 271(31):18295-18298
	ASS	Selkoe, "Alzheimer's Disease: Genotypes, Phenotype, and Treatments," <u>Science</u> , 1997, 275:630-631
	ATT	Singh, "Neuroautoimmunity: Pathogenic Implications for Alzheimer's Disease," <u>Gerontology</u> , 1997, 43:79-94
	AUU	Sisodia, " β -Amyloid precursor protein cleavage by a membrane-bound protease," <u>Proc. Natl. Acad. Sci. USA</u> , 1992, 89:6075-6079
	AVV	Sisodia et al., "Evidence that β -Amyloid Protein in Alzheimer's Disease Is Not Derived by Normal Processing," <u>Science</u> , 1990, 248:492-495
	AWW	Southern and Berg, "Transformation of Mammalian Cells to Antibiotic Resistance with a Bacterial Gene Under Control of the SV40 Early Region Promoter," <u>J. Molec. Appl. Genet.</u> , 1982, 1:327-341
	AXX	Spillantini et al., "Comparison of the neurofibrillary pathology in Alzheimer's disease and familial presenile dementia with tangles," <u>Acta Neuropathol.</u> , 1996, 92:42-48
	AYY	Strittmatter and Roses, "Apolipoprotein E and Alzheimer's Disease," <u>Annu. Rev. Neurosci.</u> , 1996, 19:53-77
	AZZ	Strittmatter et al., "Binding of human apolipoprotein E to synthetic amyloid β peptide: Isoform-specific effects and implications for late-onset Alzheimer disease," <u>Proc. Natl. Acad. Sci. USA</u> , 1993, 90:8098-8102
	AAAA	Strittmatter et al., "Isoform-specific interactions of apolipoprotein E with microtubule-associated protein tau: Implications for Alzheimer disease," <u>Proc. Natl. Acad. Sci. USA</u> , 1994, 91:11183-11186
	ABBB	Sugden et al., "A Vector That Replicates as a Plasmid and Can Be Efficiently Selected in B-Lymphoblasts Transformed by Epstein-Barr Virus," <u>Mol. Cell. Biol.</u> , 1985, 5(2):410-413
	ACCC	Takashima et al., "Localization of Alzheimer-Associated Presenilin 1 in Transfected COS-7 Cells," <u>Biochem. Biophys. Res. Comm.</u> , 1996, 227:423-426
	ADDD	Tanzi et al., "The Presenilin Genes and Their Role in Early-Onset Familial Alzheimer's Disease," <u>Alzheimer's Dis. Rev.</u> , 1996, 1:90-98
	AEEE	Thinakaran et al., "Endoproteolysis of Presenilin 1 and Accumulation of Processed Derivatives In Vivo," <u>Neuron</u> , 1996, 17:181-190
	AFFF	Van Broeckhoven, "Molecular Genetics of Alzheimer Disease: Identification of Genes and Gene Mutations," <u>Eur. Neurol.</u> , 1995, 35:8-19
	AGGG	Velazquez et al., "Aspartate residue 7 in amyloid β -protein is critical for classical complement pathway activation: Implications for Alzheimer's disease pathogenesis," <u>Nature Med.</u> , 1997, 3:77-79

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 17541-033US1	Application No. 09/889,624
	Applicant Girish Kotwal et al.		
	Filing Date November 7, 2001	Group Art Unit 1646	

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	AHHH	Webster et al., "Multivalent Binding of Complement Protein C1Q to the Amyloid β -Peptide ($A\beta$) Promotes the Nucleation Phase of $A\beta$ Aggregation," <u>Biochem. Biophys. Res. Comm.</u> , 1995, 217(3):869-875
	AIII	Webster et al., "Aggregation State-Dependent Activation of the Classical Complement Pathway by the Amyloid β Peptide," <u>J. Neurochem.</u> , 1997, 69:388-398
	AJJJ	Webster et al., "Molecular and Cellular Characterization of the Membrane Attack Complex, C5b-9, in Alzheimer's Disease," <u>Neurobiol. Aging</u> , 1997, 18(4):415-421
	AKKK	Webster et al., "Charge-Based Binding of Complement Component C1q to the Alzheimer Amyloid β -Peptide," <u>Am. J. Pathol.</u> , 1997, 150(5):1531-1536
	ALLL	Webster and Rogers, "Relative Efficacies of Amyloid β Peptide ($A\beta$) Binding Proteins in $A\beta$ Aggregation," <u>J. Neurosci. Res.</u> , 1996, 46:58-66
	AMMM	Weidemann et al., "Formation of stable complexes between two Alzheimer's disease gene products: Presenilin-2 and β -amyloid precursor protein," <u>Nat. Med.</u> , 1997, 3(3):328-332
	ANNN	Wiles et al., "NMR Studies of a Viral Protein that Mimics the Regulators of Complement Activation," <u>J. Mol. Biol.</u> , 1997, 272:253-265

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	